

REMARKS

This is a full and timely response to the outstanding non-final Office Action mailed June 30, 2008. The Examiner is thanked for the thorough examination of the present application. Upon entry of this response, claims 35-38 and 40-53 are pending in the present application. Applicants respectfully request consideration of the following remarks contained herein.

I. Indication of Allowable Subject Matter

Applicants would like to first thank Examiner Corrielus for indicating that claim 47 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. (Office Action, page 13). As indicated above, Applicants have incorporated the features in claim 47 into corresponding base claim 44, thereby rendering the rejection of claim 44 moot.

II. Response to Claim Objections

Claims 40 and 46 are objected to for various informalities related to dependency. As indicated above, Applicants have amended these claims to address the claim objections.

III. Replacement Drawing for FIG. 8

As indicated in the attached drawing sheets, FIG. 8 is amended to correct a typographical error. No new matter is added by the amendment.

IV. Response to Claim Rejections Under 35 U.S.C. § 112

Claim 37 is rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. As indicated above, Applicants have canceled claim 37, thereby rendering the §112 rejection moot.

V. Response to Claim Rejections Under 35 U.S.C. § 103

The USPTO has the burden under section 103 to establish a *prima facie* case of obviousness according to the factual inquiries expressed in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966). The four factual inquiries, also expressed in MPEP §2141, are as follows:

- (A) Determining the scope and contents of the prior art;
- (B) Ascertaining the differences between the prior art and the claims in issue;
- (C) Resolving the level of ordinary skill in the pertinent art; and
- (D) Evaluating evidence of secondary considerations.

For a proper rejection of the claim under 35 U.S.C. §103, the cited combination of references must disclose, teach or suggest all elements / features of the claim at issue. See, e.g., *In re Dow Chemical*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988) and *In re Keller*, 208 U.S.P.Q.2d 871, 881 (C.C.P.A. 1981).

- (1) Claims 35, 37, 38, and 41 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over *Minagawa* (U.S. Pat. No. 6,023,774), in view of *Chang* (U.S. Pat. No. 4,434,403).

- (2) Claim 36 is rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over *Minagawa*, in view of *Chang*, and further in view of *Kodra* (U.S. Pat. No. 6,226,663).
- (3) Claim 40 is rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over *Minagawa*, in view of *Chang*, and further in view of *Hicks* (U.S. Pat. No. 4,800,562).
- (4) Claims 42 and 43 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over *Minagawa*, in view of *Chang*, and further in view of *Buer* (U.S. Pat. No. 6,188,257).
- (5) Claims 44 and 48 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over *Minagawa*, in view of *Hatata et al.* (U.S. Pat. No. 4,481,629, hereinafter "*Hatata*"), and further in view of *Chang*.
- (6) Claim 45 is rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over *Minagawa*, in view of *Hatata*, further in view of *Chang*, and further in view of *Kodra*.
- (7) Claim 46 is rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over *Minagawa*, in view of *Hatata*, in view of *Chang*, and further in view of *Buer*.
- (8) Claims 49-52 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over *Minagawa*, in view of *Hatata*, further in view of *Chang*, and further in view of *Buer*.

- (9) Claim 53 is rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over *Minagawa*, in view of *Hatata*, further in view of *Chang*, further in view of *Buer*, and further in view of *Kodra*.

For at least the reasons set forth below, Applicants respectfully traverse the rejections set forth.

A. Independent Claim 35

Applicants respectfully submit that independent claim 35 patently defines over *Minagawa* in view of *Chang* for at least the reason that the combination fails to disclose, teach, or suggest the features emphasized below in claim 35.

Claim 35, as amended, recites:

35. A method for preventing a DC flow condition caused by a transmit signal, comprising:
determining whether a data signal exhibits a change in value based on an asynchronous counter and a predetermined limit, ***wherein while monitoring the data signal, the asynchronous counter is updated or reset based on whether the data signal maintains a current logic level for multiple clock cycles;***
generating a first signal in response to determining that the data signal does not exhibit a change in value to prevent the DC flow condition;
monitoring a clock signal; and
generating a second signal in response to a clock signal condition to prevent the DC flow condition.

(Emphasis added). As indicated above, Applicants have amended claim 35 to further define certain features. No new matter is added by the amendment. Applicants respectfully submit that *Minagawa* and *Chang*, either individually or in combination, fail to disclose, teach, or suggest the feature emphasized above. Neither reference discloses using an asynchronous counter for determining whether a data signal exhibits a change in value. Applicants note that in addressing claim 40 (which is directed to a

generating a power down signal using an asynchronous counter that reaches a maximum value), the Office Action admits that neither *Minagawa* nor *Chang* explicitly disclose this feature. (Office Action, page 6). The Office Action instead relies on the *Hicks* reference to allegedly disclose using an asynchronous counter that reaches a maximum value. In doing so, the Office Action specifically cites the following text passage in the *Hicks* reference:

The circuit of the invention runs continuously to provide a data quality indication and provides turn-on, turn-off hysteresis [sic]. That is, an alarm flag is raised as soon as an error threshold is reached and is not removed until a predetermined amount of error-free data has been received. The alarm flag may be used to suspend reception of further data until the monitoring circuit indicates that the received data meets the predetermined criteria of quality or to commutate the data link to an alternate path.

(Col. 2, lines 42-52). In the text passage above, *Hicks* discloses raising an alarm flag as soon as an error threshold is reached. *Hicks* further discloses a "monitoring circuit" that indicates that the received data meets predetermined criteria of quality. Nowhere, however, does the *Hicks* reference teach that the monitoring circuit is updated or reset based on whether the data signal maintains a current logic level for multiple clock cycles. At most, *Hicks* discloses in col. 2, line 25 that the "monitoring circuit comprises a first counter means having a predetermined maximum count." With reference to FIG. 2 in the *Hicks* reference, *Hicks* states:

At every occurrence of a signal bit from the generator 13, the counter 14 is incremented and similarly, at every occurrence of a signal bit from the detector 11, the counter 15 is incremented. When the counter 14 overflows, it clears counter 15 thereby causing both counters to be set to their minimum count. On the other hand, if counter 15 reaches its maximum count before counter 14, its overflow signal will clear counter 14 and set flip-flop 16 to thereby cause a flag signal to be generated.

(Emphasis added; col. 3, lines 40-49). While *Hicks* discloses that the counter (15) is incremented at every occurrence of a signal bit, *Hicks* fails to disclose resetting the counter (15) other than when the counters reach their maximum count ("Each of the counters 14 and 15 may conveniently be of the conventional type that resets itself on reaching its maximum count."). This, however, is not equivalent to the feature recited in claim 35. Claim 35, as amended, recites the limitation "wherein while monitoring the data signal, the asynchronous counter is updated or reset based on whether the data signal maintains a current logic level for multiple clock cycles". *Hicks* fails to disclose this feature. Furthermore, the *Minagawa* and *Chang* references fail to address this deficiency.

Accordingly, Applicants respectfully submit that independent claim 35 patently defines over *Minagawa* in view of *Chang* for at least the reason that the combination fails to disclose, teach, or suggest the highlighted features in claim 35 above. Furthermore, Applicants submit that dependent claims 38 and 41 are allowable for at least the reason that these claims depend from an allowable independent claim. See, e.g., *In re Fine*, 837 F. 2d 1071 (Fed. Cir. 1988). Claim 36 stands rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over *Minagawa*, in view of *Chang*, and further in view of *Kodra* (U.S. Pat. No. 6,226,663). Claim 40 stands rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over *Minagawa*, in view of *Chang*, and further in view of *Hicks* (U.S. Pat. No. 4,800,562). Claims 42 and 43 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over *Minagawa*, in view of *Chang*, and further in view of *Buer* (U.S. Pat. No. 6,188,257).

As set forth above, independent claim 35 is allowable over *Minagawa* and *Chang*. Applicants respectfully submit that the *Kodra*, *Hicks*, and *Buer* references fail to remedy the deficiencies expressed above for *Minagawa* and *Chang*. For at least the reason that independent claim 35 is allowable over *Minagawa* in view of *Chang*, dependent claims 36, 40, and 41-43 is allowable as a matter of law. *Id.*

B. Independent Claim 44

Applicants respectfully submit that independent claim 44 patently defines over *Minagawa*, in view of *Hatata*, and further in view of *Chang* for at least the reason that the combination fails to disclose, teach, or suggest the features emphasized below in claim 44.

Claim 44, as amended, recites:

44. A method comprising:
monitoring a data signal to determine whether a data signal condition exists, **wherein monitoring a data signal comprises:**
initializing an asynchronous counter;
updating the asynchronous counter when
the data level is maintained for more than one
clock cycle;
resetting the asynchronous counter when
the data level is not maintained for more than one
clock cycle; and
determining whether the asynchronous
counter exceeds the predetermined limit;
generating a power down signal in response to the data signal condition to prevent a DC flow condition;
monitoring a clock signal; and
generating a reset signal in response to a clock signal condition to prevent the DC flow condition.

(Emphasis added). As noted above, the Office Action indicates that claim 47 would be allowable if rewritten in independent form including all of the limitations of the base

claim and any intervening claims. (Office Action, page 13). Applicants have incorporated the features in claim 47 into corresponding base claim 44, thereby rendering the rejection of claim 44 moot.

Applicants submit that dependent claim 48 is allowable for at least the reason that this claims depend from an allowable independent claim. See, e.g., *In re Fine*, 837 F. 2d 1071 (Fed. Cir. 1988). Claim 45 stands rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over *Minagawa*, in view of *Hatata*, further in view of *Chang*, and further in view of *Kodra*. Claim 46 stands rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over *Minagawa*, in view of *Hatata*, in view of *Chang*, and further in view of *Buer*. As set forth above, independent claim 44 is allowable over *Minagawa*, *Hatata*, further in view of *Chang*. Applicants respectfully submit that the *Kodra* and *Buer* references fail to remedy the deficiencies expressed above for *Minagawa*, *Hatata*, and *Chang*. For at least the reason that independent claim 44 is allowable over these references, dependent claims 45 and 46 are allowable as a matter of law. *Id.*

C. Independent Claim 49

Applicants respectfully submit that independent claim 49 patently defines over *Minagawa*, in view of *Hatata*, further in view of *Chang*, and further in view of *Buer* for at least the reason that the combination fails to disclose, teach, or suggest the features emphasized below in claim 49.

Claim 49 recites:

49. A method comprising:
monitoring a data signal, **wherein monitoring comprises:**

**initializing an asynchronous counter;
updating the asynchronous counter when
the data signal is maintained for more than one
clock cycle;
resetting the asynchronous counter when
the data signal is not maintained for more than
one clock cycle; and
determining that a signal fault condition exists
based on the asynchronous counter and a
predetermined limit;**
generating a power down signal if a signal fault condition
exists;
monitoring for an anomalous clock signal comprising a clock
signal with a frequency that fails to exceed a predetermined
minimum value; and
generating a reset signal if an anomalous clock signal exists.

(Emphasis added). As indicated above, Applicants have further defined the step of monitoring a data signal and submits that no new matter is added by the amendment. Applicants respectfully submit that the cited references (*Minagawa*, *Hatata*, *Chang*, *Buer*), either individually or in combination, fail to disclose, teach, or suggest the feature emphasized above. In particular, the cited references fail to disclose monitoring a data signal that comprises initializing an asynchronous counter, updating the asynchronous counter when the data signal is maintained for more than one clock cycle, resetting the asynchronous counter when the data signal is not maintained for more than one clock cycle, and determining that a signal fault condition exists based on the asynchronous counter and a predetermined limit.

For at least this reason, Applicants respectfully submit that independent claim 49 patently defines over the combination of *Minagawa*, *Hatata*, *Chang*, and *Buer*. Furthermore, Applicants submit that dependent claims 50-52 are allowable for at least the reason that these claims depend from an allowable independent claim. See, e.g., *In re Fine*, 837 F. 2d 1071 (Fed. Cir. 1988). Claim 53 stands rejected under 35 U.S.C.


§103(a) as allegedly being unpatentable over *Minagawa*, in view of *Hatata*, further in view of *Chang*, further in view of *Buer*, and further in view of *Kodra*. As set forth above, independent claim 49 is allowable over *Minagawa*, in view of *Hatata*, further in view of *Chang*, further in view of *Buer*. The *Kodra* reference fails to address the deficiencies in these references. Accordingly, for at least the reason that claim 49 is allowable over these references, dependent claim 53 is allowable as a matter of law. *Id.*

CONCLUSION

Applicants respectfully submit that all pending claims are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephone conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (770) 933-9500.

No fee is believed to be due in connection with this amendment and response to Office Action. If, however, any fee is believed to be due, you are hereby authorized to charge any such fee to deposit account No. 50-0835.

Respectfully submitted,


Scott A. Horstemeyer
Reg. No. 34,183

**THOMAS, KAYDEN, HORSTEMEYER
& RISLEY, L.L.P.**
600 Galleria Parkway, S.E.
Suite 1500
Atlanta, Georgia 30339
(770) 933-9500